

Advantages of Automation

Automated monitoring provides continuously updated measurements of pore-water pressure and settlement.

- Automation helps control costs and enhances site safety by minimizing visits by instrument technicians and survey crews.
- Automation obtains measurements at frequent intervals, increasing reliability and confidence in the data.
- Automation presents data graphically on a secure website that is updated continuously.

Piezometers

Piezometers are installed within the wick drain grid at specified locations and depths. Wireless nodes transmit piezometer readings to an internet gateway at scheduled intervals.

Settlement Plates

Settlement plates are installed within the wick drain grid at specified locations. AMTS survey prisms are attached to the settlement plate risers. Wireless nodes for piezometers and other sensors can also be mounted on the settlement plate risers.

AMTS & Gateway

The AMTS is mounted on a tower that provides line-of-sight to all of the settlement plate prisms. The gateway for the wireless nodes is often co-located with the AMTS. Both the AMTS and the gateway are solar powered.

The AMTS obtains high precision elevation measurements of the settlement plate prisms. The gateway collects readings sent by wireless nodes. Both forward the readings to the internet.

GeoCloud Server & Website

A GeoCloud server on the internet receives readings sent from the project site and automatically processes and stores them in a database.

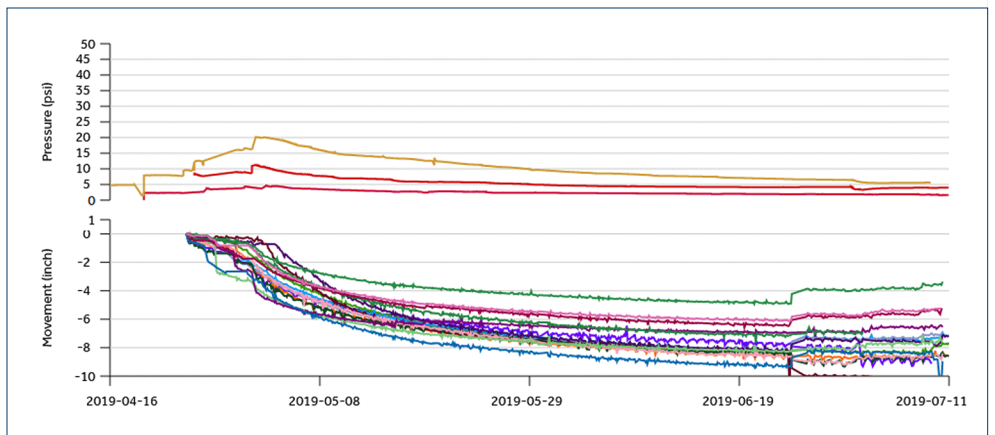
A dedicated GeoCloud project website automatically generates preconfigured plan views and plots using the most recent data. The website also supports adhoc graphs and data exports.



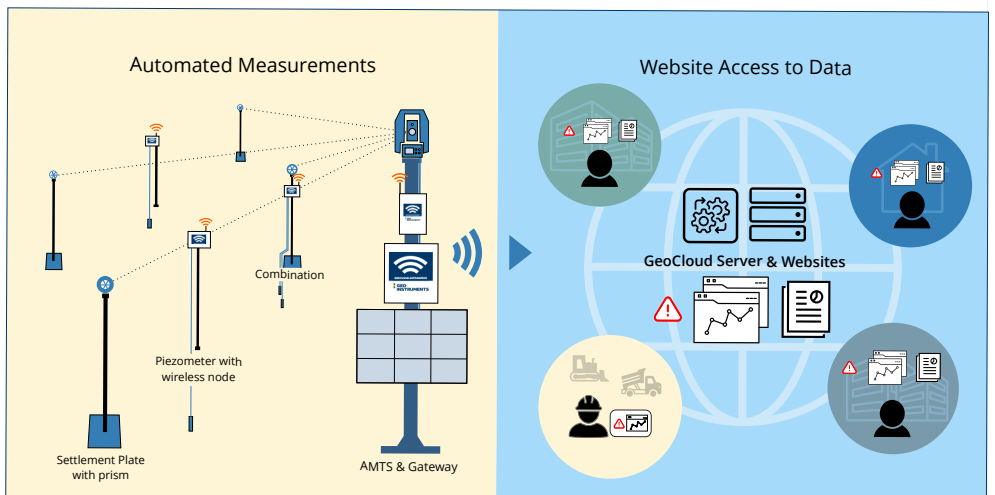
AMTS and co-located gateway are monitoring distant settlement plates and piezometers during ground improvements to a warehouse access road.



Wireless nodes above are connected to piezometer cables. Prism is attached to the top of the settlement plate riser.



Combined trend plot of pore-pressure and settlement displayed on GeoCloud website.



The AMTS collects settlement plate readings. Piezometers readings are sent while the gateway collects piezometer readings. Both send readings to the GeoCloud server at frequent intervals.

The GeoCloud server receives and processes the readings, then posts alerts, graphs, and reports on a dedicated project website. Authorized users have access everywhere.